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PATENT

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For : METHOD COMPRISING  
CAPTURE MOLECULE  
FIXED ON DISC SURFACE

Examiner : Unassigned

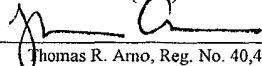
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June 30, 2000

(Date)

  
Thomas R. Arno, Reg. No. 40,490PRELIMINARY AMENDMENTAssistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Prior to examination on the merits, please amend the subject application as follows.

**IN THE SPECIFICATION**

Please amend the specification as follows.

At page 4bis, line 21, after "WO96/09548" insert --describes--;

At page 10, line 7, after "nothing" insert --more--;

At page 19, line 11, delete "molecule extremity," and insert therefor  
--molecule's extremities--,

line 23, delete "address" and insert therefor --addressed--;

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PLF  
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At page 21, line 6, delete "dimension axe" and insert therefor --dimensional axis--;  
At page 23, line 20, delete "limps" and insert therefor --lumps--;  
At page 25, line 1, delete "an"; and  
At page 30, line 16, delete the period after "It".

## IN THE CLAIMS

Please cancel existing claims 1-29 and add the following new claims 30-63:

--30. A method for the detection of a target molecule present in a sample, comprising the steps of:

allowing binding between said target molecule and a capture molecule fixed upon a side of the surface of a solid support, said solid support comprising a disc, wherein said binding results in a detectable signal, and wherein said disc comprises registered data located on areas separated from the areas where the signal is generated;

detecting said signal, wherein said signal is not obtained through cleavage of capture molecule, and

reading the registered information and reading the signal resulting from the binding between said target molecule and said capture molecule, said readings being done by two different reading devices.

31. The method according to Claim 30, wherein the capture and the target molecules are nucleotide sequences.

32. The method according to Claim 30, wherein the capture and target molecules are antigen antibody pairs.

33. The method according to Claim 30, wherein the capture and target molecules are receptors and ligand pairs.

34. The method according to Claim 30, further comprising detecting said signal by a method selected from the group consisting of reflection, absorption, and diffraction of a light beam, and variation of an electromagnetic field.

35. The method according to Claim 30, wherein said detecting step comprises detecting a fluorescent light emission after excitation of the bound target and capture molecules by a light beam.

36. The method according to Claim 35, wherein the emission is generated by a bound molecule which is selected from the group consisting of molecules having chemo, bio, fluoro, radioactivity, electroluminescence light, and radiation.

37. The method of Claim 30, wherein said detecting step comprises detecting a direct emission of a light beam, a radiation or a magnetic field, resulting from the binding between the target molecule and the capture molecule.

a' 38. The method according to Claim 37, wherein the emission is generated by a bound molecule which is selected from the group consisting of molecules having chemo, bio, fluoro, radioactivity, electroluminescence light, and radiation.

39. The method of Claim 30, wherein the signal comprises a precipitate upon the surface of the disc and/or the corrosion of one or more layer(s) of the surface of the disc.

40. The method of Claim 39, wherein the precipitate is an opaque or magnetic precipitate.

41. The method of Claim 30, wherein the binding between the target and capture molecules results in the fixation of one or more molecules(s) used in the detection of the signal.

42. The method of Claim 41, wherein the binding between the target and the capture molecule results in the fixation of one or more microbeads or magnetic particles used in the detection of the signal.

43. The method of Claim 30, further comprising detecting said signal when the disc is rotating upon its axis.

44. The method of Claim 30, wherein the registered data are binary data.

45. The method of Claim 44, wherein the binary data are grooved binary data.

46. ~~The~~ method of Claim 30, wherein the disc is a compact-disc.

47. The method of Claim 30, wherein the registered data are data used in the treatment and the interpretation of the signal.

48. The method of Claim 30, wherein the disc comprises micro-channels connected and in fluidic contact.

49. A disc comprising registered data, and non-cleavable capture molecules that bind with target molecules, wherein said registered data and said capture molecules are located in different areas on the surface of the disc.

50. The disc according to Claim 49, wherein the non-cleavable capture and the target molecules are selected from the group consisting of nucleic acid molecules, nucleotides sequences, antigens, antibodies, receptors, ligands of receptors, peptidic molecules, proteinic molecules, lipids, saccharides, haptens, fluorophores, chromophores, catalysts, new macromolecules obtained by combinatorial chemistry and a combination thereof.

51. The disc according to Claim 49, wherein the registered data are binary data.

52. The disc of Claim 51, wherein the binary data are grooved binary data.

53. The disc according to Claim 51, wherein the disc is a compact-disc.

54. The disc of Claim 49, further comprising microchannels connected and in fluidic contact.

55. A method of preparing a disc comprising registered data and non-cleavable capture molecules, comprising the step of fixing upon a side of the surface of the disc comprising registered data, non-cleavable capture molecules at specific dedicated areas different from the areas comprising registered data, through a photoactivation of said capture molecules.

56. The process of Claim 55, wherein the fixation of non-cleavable capture molecules is obtained through a covalent link between an extremity of the capture molecules and the surface layer of the disc.

57. The process of Claim 55, wherein the disc surface comprises a protective layer, which allows or improves the protection and stabilization of the non-cleavable capture molecule and/or the protection, stabilization and/or detection of the binding between the target molecule and its non-cleavable capture molecule.

58. A diagnostic kit comprising the disc of Claim 49 and reactants that allow the binding between the target molecule and its capture molecule.

59. The kit of Claim 58, further comprising reactants that allow the detection of a signal which results from said binding.

60. A detection device which detects a signal which results from the binding between a target molecule present in a sample and its capture molecule located on a disc having registered data.

61. The detection device of Claim 60, comprising a compact-disc reading device.

62. The detection device according to Claim 61, comprising a first reading head for the reading of the registered data upon the disc and a second reading head for the detection of the signal resulting from the binding between target molecule and its capture molecule.

63. The detection device of Claim 60, further comprising additional means for the purification of the target molecule, the specific cleavage of the target molecule, and the possible genetic amplification of said target molecule.--

### REMARKS

The foregoing amendments to the specification are merely informal in nature and were made to place the application in better form prior to examination. Claims 1-29 were cancelled and new Claims 30-63 were added to more particularly describe Applicant's invention. No new matter has been added.

Should the Examiner have any questions with respect to this document or the application in general, he is respectfully requested to contact the undersigned attorney.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 6/30/00

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